

ABSTRACT OF THE DISCLOSURE

The present invention provides a semiconductor device and a testing method capable of easily detecting a short circuit in a memory circuit with high precision and efficiently detecting a short circuit in a memory circuit. A memory circuit in which memory cells are disposed at intersections of a plurality of word lines and a plurality of bit lines performs, in a test mode, an operation of applying a predetermined potential to neighboring ones of a plurality of word lines or bit lines, an operation of selecting a plurality of word lines and applying a ground potential of the circuit to all of the plurality of bit lines, and an operation of setting all of the plurality of bit lines at a predetermined potential corresponding to the selection level of the word lines and setting all of the plurality of word lines into a non-selection state. By measuring current flowing in a power supply terminal of the semiconductor device, a short circuit between word lines, a short circuit between bit lines, a short circuit between a word line and a bit line, and the like are detected.